November 20, 2009

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RE: Comments on Proposed Concept Outline for the California Renewable Electricity Standard

Dear Mr. Mehl and Mr. Collard:

The Large-scale Solar Association (LSA) appreciates the opportunity submit the following comments on the Air Resources Board's (ARB) Proposed Concept Outline for the California Renewable Electricity Standard, as established by Executive order S-21-09.

As renewable energy is a relatively new focus for ARB, we recognize that LSA may not be familiar to you and your staff, so first I'd like to provide some background on our Association.

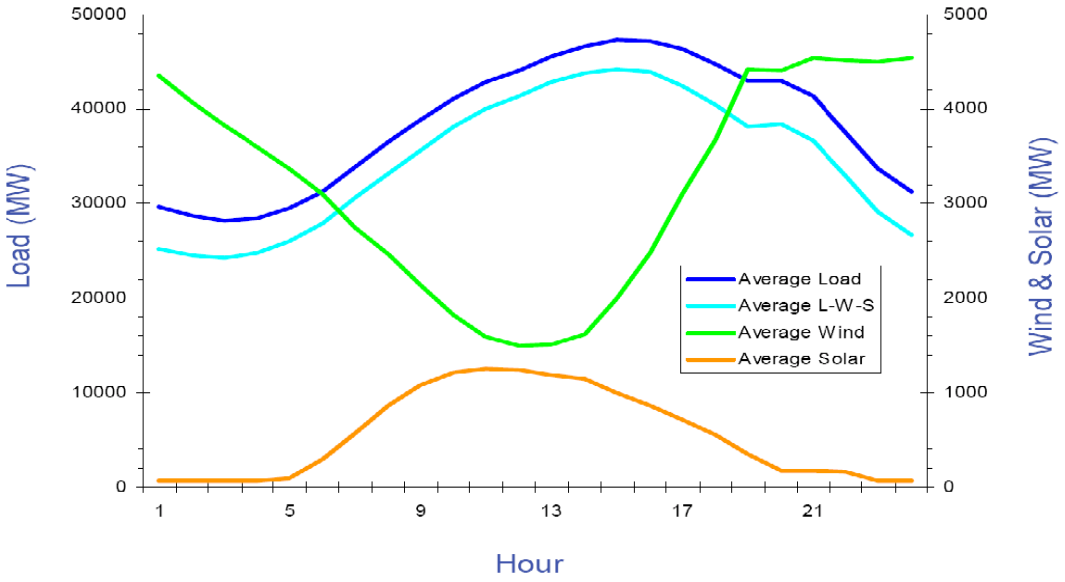
LSA represents eleven[1] of the nation's largest developers and providers of utility-scale solar generating resources. Collectively, LSA's members have contracted with utilities in California and the West to provide over 6 gigawatts ("GW") of clean, sustainable solar power. Our members develop, own and operate various types of utility-scale solar technologies, including photovoltaic and solar thermal system designs. LSA and its individual member companies are leaders in the renewable energy industry, advancing solar generation technologies and advocating competitive market structures that facilitate significant integration of renewable energy throughout the western United States. LSA actively represents the interests of utility-scale solar development in California, Arizona, and Nevada, and also works to shape regional and federal policies that affect solar market development.

Utility-scale solar provides large quantities of peak power over the many decades it is in service, complementing the production profiles of other renewables and well worth the capital-intensive, long-term investment it requires. It's relevant to note that the California Renewable Energy Transmission Initiative (RETI) estimates that large-scale solar provides the largest potential of any of California's renewable resources.

[1] Ausra; Abengoa Solar Power; BrightSource Energy, Inc.; Cogentrix Energy, LLC; First Solar; Infinia; NextLight Renewable Power, LLC; Solel; Sun Power; SunTech Power Holdings; and Tessera Solar/Stirling Energy.

General Comments

To reliably integrate sufficient renewables to achieve the 33% RES requirement, the conclusions of recent NERC and NREL studies must be heeded: the intermittent nature of many of these renewable resources can be managed by the grid if a diversity of resources, from a diversity of locations, is made available.[2] Solar, as a peaking resource, and wind, which generally reaches maximum production at dawn and dusk, are particularly well-suited to each other, as shown in the following graph from NERC's April 2009 " Special Report: Accommodating High Levels of Variable Generation":



If, on the other hand, renewables are not balanced against each other, grid operators may require rapid response from conventional generation, increasing their emissions over and above the levels expected when that generation operates at optimal efficiency. The grid acts much as an ecosystem in this sense, and for this reason, it is not practicable to accurately assess a greenhouse gas value for individual renewable resources for purposes of compliance. Instead, greenhouse gas performance, and progress towards the greenhouse gas goals required by AB 32, can only be determined on a system-wide basis—the energy sector's contribution to greenhouse gas emissions all depends on the combination of resources that are actually used, and how they are used.

Development of utility-scale solar projects lies at the heart of the RES solution. Given the current economic and market instability, it is critical for California to send a clear signal that the pathway to new renewable generation in this state is both stable and predictable. The Large-scale Solar Association strongly believes that the Air Resources Board, in developing the Renewable Energy Standard (RES), must ensure market certainty by preserving a high level of consistency with the existing Renewable Portfolio Standard (RPS) program—particularly with resource eligibility.

As we contemplate taking the next step towards a 33% RES solution, some level of pricing and procurement consistency is crucial to both the investor and development communities. The financial sector will not invest in California's renewable power market unless there is some reasonable assurance

[2] See, e.g., NREL, "How do Wind and Solar Power Affect Grid Operations: The Western Wind and Solar Integration Study" (Oct. 2009), available at http://www.nrel.gov/wind/systemsintegration/news/2009/737.html.

that successful development in, or that delivers to, California will be rewarded with long-term contracts in a stable environment. We feel that the ARB's priority should be to provide a seamless transition from the existing RPS to the new RES program.

Along these lines, LSA underscores the importance of using retail sales (MWh) as the metric for gauging compliance with the RES. We elaborate on this point later in the document, and believe it merits emphasis here.

As the RES is developed, the ARB should also consider the impact of the regulation on all forms of air pollution in California, including all greenhouse gas (GHG) pollutants and criteria pollutants—although, as discussed above, this is best done on a system-wide basis. Taking this inclusive approach will ensure that the scope of the RES program's benefits, such as in-state jobs, tax revenues, and in-basin air quality improvements, are accounted for comprehensively. Additionally, the ARB, in its cost-effectiveness analysis, should analyze and quantify the benefits of the RES to the State, including the cost benefits of avoided emissions from fossil-fired power plants.

Finally, in order for any RPS or RES to succeed, the state must improve its ability to process and site new renewable energy resources. In the case of utility-scale solar, California has a tremendous body of work ahead to site new projects. While we recognize that siting issues fall outside the scope of this process, it is nonetheless critical for the ARB and its partner agencies to dedicate all possible focus, staffing and resources to solving the project permitting challenges before them, lest the real goal of new renewable megawatts be lost in the program mechanics.

Specific Responses to Feedback Requested

2. RES Eligible Resources: Is it appropriate to include other technologies and modify existing RPS program limitations? (PCO page 10)

LSA encourages the ARB to include only those resources currently defined as eligible in the State's existing RPS statute. Careful thought and deliberation were applied to the current definition, and it remains important to the market, the environment, the present renewable resource community, and to the integrity of the program, that the resource definitions are neither expanded upon nor diluted with non-renewable energy producing resources.

3. RES Eligible Resources: Should ARB modify deliverability requirements for out-of-state generating resources? (PCO page 10)

Renewables, and in particular solar power, can bring a wealth of economic, public health, and environmental benefits to California. Absent assurances that California customers will actually receive the energy that renewable power produces, those benefits will be paid for by California but enjoyed elsewhere.

LSA believes that California its ratepayers benefit the most from a program that requires deliveries of real renewable energy into the California system. We encourage the ARB to develop and enforce a policy that requires retail sellers to meet a significant majority of their RES targets with contracts whose eligible renewable energy supplies California demand.

Renewable Energy Credits

An RES which permits the unlimited use of Renewable Energy Credits (RECs) whose energy isn't delivered to the State is inconsistent with California's goal of reducing in-state greenhouse gas and criteria pollutant emissions, improving public health, creating green jobs and protecting ratepayers from gas price volatility. In fact, RECs that aren't associated with California-delivered energy may not only fail to provide any of the benefits intended by the RES, they may not even reduce overall greenhouse gas emissions in the region. Additionally, from LSA's business-development perspective, out-of-state RECs fail to provide sufficient basis for the development of utility-scale solar projects. Finally, a high allowance of such REC-only contracts could also undermine efforts and momentum to construct transmission to access California's renewable resource areas for its own consumption, as well as for export throughout the West.

From a practical standpoint, some allowance of out-of-state, undelivered RECs is reasonable, particularly for smaller load-serving entities with variable load and for larger load-serving entities needing flexibility to fill gaps in their portfolio. Ultimately, the western renewable energy market should be integrated to promote reliability and make use of differing times at which renewable energy peaks in differing areas. For this reason, LSA would support limited use of out-of-state undelivered RECs for RPS compliance. We believe the upper limit to these types of RECs should be 20% of the RES target (that is, 20% of the delta between the 20% RPS goal and the 33% RES goal or 7.9 percent of the entire renewable portfolio).

4. RES compliance: What is the best RES metric? If ARB converts MWh to GHG tons what is the feasibility of using prescribed GHG factors for various resource types? What are the potential systems impacts of this approach?

As noted above, LSA believes it is essential that ARB preserve market certainty. To accomplish this, it's essential to maintain consistency with the current RPS program. As such, LSA encourages ARB to measure RES compliance based on MWh of eligible renewable generation obtained by the regulated parties, as has been done historically with the California RPS and with the renewable procurement requirements in every other state in the U.S.

LSA recognizes that under AB 32, the ARB will assess GHG factors for the energy sector. As discussed above, isolating GHG factors for any individual technology would be misleading at best, and at worst could promote policies that fail to reduce the GHG and criteria pollutant emissions from the energy system as a whole. We believe GHG reductions should be measured on a system-wide basis to demonstrate progress towards GHG goals, and to help guide the build-out of a renewable energy-based grid with the lowest overall emissions.

Our specific concerns about the use of a GHG metric include the potential to improperly penalize some renewable sources, depending on how their intermittencies are actually balanced - i.e., where the load-stabilizing or "firmed" power may originate, the conditions under which it is generated, and how its emissions, if any, are calculated as part of the metric. The complexities inherent in analyzing and verifying system power and power from balancing renewable and aggregated fossil resources used to firm and shape renewable energy could delay the program and confuse the market.

In addition, life-cycle analysis of any resource takes time and detailed inputs. Given the brief period in which the ARB has been directed to develop the RES regulations, it's unrealistic to expect a full and accurate analysis to be completed and incorporated into the program by June 2010. Furthermore, LSA is

not convinced that a life-cycle analysis of each and every renewable resource technology is possible outside of the grid operations context in which it is operated, nor necessary to the success of the RES program.

In short, we agree with the energy agencies, as stated in the Proposed Concept Outline, that compliance should be based solely on MWh of generation.

5. RES Compliance: Is an annual compliance requirement too frequent? Should ARB establish interim compliance targets and what should the frequency of meeting these targets be to ensure steady progress towards meeting the 33% mandate? (PCO page 12)

LSA emphasizes here the importance of program simplicity and of minimizing regulatory burden. To the extent that maintaining an annual compliance target helps to smooth the transition from the existing program to the new RES, it's a useful exercise. That being said, the ARB should be free to explore biannual and perhaps even triennial compliance targets, to the extent that doing so continues to ensure regular and predictable procurement cycles and target verification processes. The ultimate goal of procuring and bringing new renewable energy online should be prioritized, and we caution the ARB against creating redundant or iterative compliance measurement process that could detract from the primary objective.

It would be useful for the regulated load-serving entities to submit long-term procurement and transmission plans at the outset of the program. This could serve as a comprehensive snapshot, assisting the ARB and its partner agencies in projecting accurate benchmarks and interim compliance targets.

6. Should ARB exclude generation from technologies promoted in the AB 32 Scoping Plan (such as rooftop PV and CHP systems) subject to the RES obligation? Is it appropriate to include an approach that reduces the RES obligation due to these technologies (which reduce a regulated party's load), but avoids double counting emission reductions? Should ARB exclude future load deliveries to plug-in hybrid vehicles from the RES obligation? (PCO page 21)

The California loading order states clearly that energy efficiency and renewable energy top the procurement priorities for the State. LSA believes that it is not appropriate for the ARB to include an approach that reduces the RES obligation due to Combined Heat and Power (CHP) applications. The current AB 32 Scoping Plan outlines a possible 4,000 new megawatts[3] of energy to come online from CHP. That's approximately 14% of the incremental 33% RES goal. It's antithetical to the State's own energy policy to postpone or rule out 4,000MW of new renewable energy to make way for fossil-fired CHP applications, particularly when nearly 50% of the state's electricity load is currently met through gas-fired power plants. In short, we feel that a CHP carve-out would impose a needless restriction on the renewable energy program, and one that the general public would no doubt find very troubling.

LSA continues to discuss with its partners in the solar rooftop industry the issue of how to treat distributed generation solar in the RES, and will defer this issue to a later comment period. However,

[3] Pages 42-43 of the California ARB Climate Change Scoping Plan

we do want to take this opportunity to clarify that solar distributed generation (DG) technologies include, but are by no means limited to photovoltaic (PV) technologies. LSA encourages the ARB and its partner agencies to modify references regarding solar DG from "rooftop PV" to "solar electric distributed generation." This more correct term would encompass both the rooftop systems in the California Solar Initiative program (and beyond) as well as other solar DG applications.

7. RES compliance credits: Is it feasible or appropriate to reduce the RES GHG factor for remote generating resources subject to higher line losses? Are there other adjustment factors that should be applied based on the location or operational regime of various resources? Should resources that are less stable and require additional thermal support receive a smaller RES GHG factor?

LSA does not believe it's necessary to reduce the RES GHG factor for remote generating resources as long as the resource's generation is scheduled for consumption in California. (We address the issue of out-of-state generation in an earlier section of this document.)

The generation profile of most renewable resources is, by virtue of the resource itself, intermittent. As such, most technologies utilize some form of thermal support, be it on-site thermal assist or firmed and shaped energy from system power or from other renewable thermal or fossil-fired plants. We reiterate for emphasis that LSA believes the RES should rely upon a retail sales metric to gauge compliance, although an overall GHG metric applied to the system as a whole could be used to assess progress towards and achievement of the targets.

Thank you for the opportunity to comment. Please feel free to contact me if you have any questions about these comments.

Sincerely,

/s/_____

Shannon Eddy
Executive Director